

**To:** Tina Laidlaw/MO/R8/USEPA/US@EPA[]  
**From:** "Suplee, Mike"  
**Sent:** Fri 10/28/2011 8:24:41 PM  
**Subject:** Conceptual Proposal for new circular  
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Hi Tina;

Per our conversation, here is our draft conceptual proposal for a new circular that would house things associated with numeric nutrients standards and variances. It is an early draft and will get more internal review and then vetting through the nutrient work group. This is a for your eyes only copy, please!

One thing you might want to mull over as you review it is how we might/should integrate our new nutrient surface water assessment methodology into the circular. I wanted to bring that topic up in Denver with Dave and Tonya but maybe you'll have some ideas too. At this point the circular is largely silent on it, but that can be changed. Anyway, give it a thought.

Thanks, and have a nice weekend,

Mike



# **DEPARTMENT CIRCULAR**

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## **DEQ-12, PARTS A and B**

**Montana Base Numeric Nutrient Standards  
and Nutrient Standards Variances**

## GENERAL INTRODUCTION

This circular contains information pertaining to the base numeric nutrients standards (§ 75-5-103[2][a], MCA) and their implementation. It is divided into **Parts A** and **B**. **Part A** contains the water quality standards including concentration limits, where they apply, and their period of application. **Part A** is adopted by the Board of Environmental Review under its rulemaking authority in §75-5-103, MCA.

**Part B** contains information about variances from the base numeric nutrient standards. This includes effluent treatment requirements associated with general nutrient standards variances, as well as effluent treatment requirements for individual nutrient standards variances and to whom these apply. **Part B** also contains the Department's definition of the total nitrogen and total phosphorus concentrations achievable at the practical limits of technology. Unlike **Part A**, **Part B** is not adopted by the Board of Environmental Review; **Part B** is adopted by the Department after a public hearing, pursuant to §75-5-313, MCA.

The Department has reviewed a considerable amount of scientific literature and has carried out scientific research on its own in order to derive the base numeric nutrient standards (see **References** in **Part A**). It should be noted that unlike other surface water quality standards, base numeric nutrient standards only apply seasonally (summer and fall). Nevertheless, because many of the standards are stringent and may be difficult for MPDES permit holders to meet in the short term, Montana's legislature adopted laws (e.g., §75-5-313, MCA) allowing for the achievement of the standards over time. This approach should allow time for nitrogen and phosphorus removal technologies to improve and become less costly, and to allow time for nonpoint sources of nitrogen and phosphorus pollution to be better addressed.

## 1.0 Introduction

Elements comprising Circular DEQ-12, **Part A** are found below. These elements are adopted by the Montana Board of Environmental Review. The nitrogen and phosphorus concentrations provided here have been set at levels that should prevent exceedences of other, already-adopted water quality standards (e.g., pH). In addition, the nitrogen and phosphorus concentrations also reflect the intent of the narrative standard at ARM 17.30.637(1)(e), and will generally preclude the need for case-by-case interpretations of the narrative standard.

## 1.1 Definitions

1. **Ecoregion** means mapped regions of relative homogeneity in ecological systems, derived from perceived patterns of a combination of causal and integrative factors including land use, land surface form, potential natural vegetation, soils, and geology. See also, footnote 1.
2. **Large river** means a perennial waterbody which has, during baseflow (August 1 to October 31 each year), a wadeability index (product of river depth [in feet] and mean velocity [in ft/sec]) of 7.24 ft<sup>2</sup>/sec or greater, a depth of 3.15 ft or greater, or a baseflow annual discharge of 1,500 ft<sup>3</sup>/sec or greater. See also, footnote 3.
3. **Total nitrogen** means the sum of all nitrate, nitrite, ammonia, and organic nitrogen, as N, in an unfiltered water sample. Total nitrogen in a sample may also be determined via persulfate digestion, or as the sum of total kjeldahl nitrogen plus nitrate plus nitrite.
4. **Total phosphorus** means the sum of orthophosphates, polyphosphates, and organically bound phosphates, as P, in an unfiltered water sample. Total phosphorus may also be determined directly by persulfate digestion.
5. **Wadeable stream** means a perennial or intermittent stream for which most of the wetted channel is safely wadeable by a person during baseflow conditions.

## 2.0 Base Numeric Nutrient Standards

**Table 12A-1** below shows the base numeric nutrient standards for Montana's wadeable streams and large rivers. Standards for wadeable streams are sub-grouped by ecoregion, either by level III (coarse scale) or level IV (fine scale). There is also a list of wadeable streams with reach-specific standards; these waterbodies have characteristics dissimilar from those of the ecoregions in which they reside and have therefore been provided alternative standards. **For the wadeable streams, the standards should be applied in this order: reach specific (if applicable) then level IV ecoregion (if applicable) then level III ecoregion.**

**Table 12A-2** shows the base numeric nutrient standards for Montana's lakes and reservoirs. For lakes, these are sub-grouped by ecoregion, either by level III (coarse scale) or level IV (fine scale). Also listed are lakes with specific standards; these waterbodies have characteristics dissimilar from those of the ecoregions in which they reside and have therefore been provided alternative standards. Reservoir standards are developed case-by-case and are therefore all individually listed. **For the lakes, the standards should be applied in this order: lake specific (if applicable) then level IV ecoregion (if applicable) then level III ecoregion.**

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**Table 12A-1. Numeric nutrient standards for wadeable stream and large rivers. This table is not yet complete.**

Waterbodies Criteria Apply to	Level III Ecoregion <sup>1</sup> (number)	Level IV Ecoregion <sup>1</sup> (number)	Period of Application	Numeric Nutrient Standard		Related Assessment Information <sup>2</sup>
				Total P (mg/L)	Total N (mg/L)	
<b><u>Wadable Streams- Reach Specific:</u></b>						
Flint Creek (Georgetown Lake outlet to Clark Fork River	n/a	n/a	July 1-Sept 30	X	Y	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
Clark Fork River from below the Warm Springs Creek confluence (46.1881, -112.7680) to the Bitterroot River confluence	n/a	n/a	July 1-Sept 30	0.020	0.300	100 mg Chla/m <sup>2</sup> (summer mean); 150 mg Chla /m <sup>2</sup> (summer maximum)
<b><u>Wadeable Streams- by ecoregion:</u></b>						
	Northern Rockies (15)		July 1-Sept 30	0.025	0.300	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Canadian Rockies (41)		July 1-Sept 30	0.025	0.300	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Middle Rockies (17)		July 1-Sept 30	0.030	0.300	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Absaroka -Gallatin Volcanic Mountains (17i)		July 1-Sept 30	0.130	0.250	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Idaho Batholith (16)		July 1-Sept 30	0.030	0.300	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Northwestern Glaciated Plains (42)		June 16-Sept 30	0.120	1.10	
	Northwestern Great Plains (43)		July 1-Sept 30	0.120	1.00	
	Non-calcareous Foothill Grassland (43s)		July 1-Sept 30	0.030	0.300	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	Limy Foothill Grassland (43u)		July 1-Sept 30	0.035	0.350	120 mg Chla/m <sup>2</sup> or 35 g AFDM/m <sup>2</sup>
	etc.		etc.	etc.	etc.	etc.
<b><u>Large Rivers</u><sup>3</sup>:</b>						
Yellowstone River (Unit 3; Bighorn River confluence to Powder River confluence)	n/a	n/a	Aug 1 -Oct 31	0.09	0.70	
Yellowstone River (Unit 4; Powder River confluence to stateline)	n/a	n/a	Aug 1 -Oct 31	0.14	1.00	
Clark Fork River from the Bitterroot River confluence to the Flathead River confluence	n/a	n/a	July 1-Sept 30	0.020	0.300	100 mg Chla/m <sup>2</sup> (summer mean); 150 mg Chla /m <sup>2</sup> (summer maximum)

<sup>1</sup> See footnote 1

<sup>2</sup> See footnote 2

<sup>3</sup> See footnote 3

**12A-2. Numeric nutrient standards for lakes and reservoirs. This Table is not yet complete.**

Waterbodies Criteria Apply to	Level III Ecoregion <sup>1</sup> (number)	Level IV Ecoregion <sup>1</sup> (number)	Period of Application	Numeric Nutrient Standard		Related Assessment Information <sup>4</sup>
				Total P (mg/L)	Total N (mg/L)	
<b>Lakes-specific lakes:</b>						
Flathead Lake	n/a	n/a	July 1-April 1	x	y	Phytoplankton z µg/l
<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>
<b>Lakes-by ecoregion:</b>						
	Middle Rockies (17)		July 1-April 1	x	y	Phytoplankton a µg/l
	Northern Rockies (15)	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>	<i>etc.</i>
<b>Reservoirs</b>						

<sup>1</sup> See footnote 1

<sup>4</sup> See footnote 4

## 2.1 Required Reporting Values for Base Numeric Nutrient Standards

**Table 12A-3** presents the required reporting values for total phosphorus and total nitrogen measurements used to conform with the base numeric nutrient standards in this circular.

**Table 12A-3. Required reporting values<sup>a</sup> for total nitrogen and phosphorus measurements.**

Nutrient		Method of Measurement	Required Reporting Value
Total phosphorus		Persulfate digestion	5 µg/L
Total nitrogen		Persulfate digestion	40 µg/L
Total nitrogen	Sum of:	(a) total kjeldahl nitrogen	100 µg/L
		(b) nitrate + nitrite	See RRVs below
Nitrate- as N		46 µg/L	
Nitrite- as N		16 µg/L	
Nitrate + Nitrite-as N		40 µg/L	

<sup>a</sup> See definition for required reporting values found in footnote 19 of Department Circular DEQ-7.

### 3.0 Footnotes

(1) Ecoregions are based on the 2009 version (version 2) of the U.S. Environmental Protection Agency maps. These can be found at: [http://www.epa.gov/wed/pages/ecoregions/mt\\_eco.htm](http://www.epa.gov/wed/pages/ecoregions/mt_eco.htm) . For Geographic Information System (GIS) use within DEQ, the GIS layers may be found at: L:\DEQ\Layers\Ecoregions.lyr

(2) Algae density values refer to bottom-attached (benthic ) algal chlorophyll *a* (Chl*a*) or ash free dry mass (AFDM) per square meter of stream bottom. These values are the arithmetic mean of between 10 and 20 repeat measures (replicates) of benthic algae collected from an assessment reach during a sampling event. Chl*a* and AFDM are used to assess the biomass of algae accumulated on the stream bottom; this algae is stimulated by excess nitrogen and phosphorus levels and has been associated with impacts to recreational uses and impacts to stream dissolved oxygen levels, for example.

In the case of the Clark Fork River, the maximum algae value is the single greatest of any of the monthly means of the Chl*a* values. There is only one month each summer representing the maximum. The summer mean is the arithmetic mean of the set of all repeat measures collected at a site during a summer.

(3) Table F-3 below shows the beginning and ending locations for large rivers in Montana.

**Table F-3. Large river segments within the state of Montana.**

River Name	Segment Description
Big Horn River	Yellowtail Dam to mouth
Clark Fork River	Bitterroot River to state-line
Flathead River	Origin to mouth
Kootenai River	Libby Dam to state-line
Madison River	Ennis Lake to mouth
Missouri River	Origin to state-line
South Fork Flathead River	Hungry Horse Dam to mouth
Yellowstone River	State-line to state-line

(4) Lake algae concentrations are expressed as micrograms chlorophyll *a* per L.

## 4.0 References

The following are citations for key scientific and technical literature used to derive the base numeric nutrient standards. This is not a complete list; rather, it contains the most pertinent citations. Many other articles and reports were reviewed during the development of the standards.

- Biggs, B.J.F., 2000. New Zealand Periphyton Guideline: Detecting, Monitoring and Managing Enrichment in Streams. Prepared for the New Zealand Ministry of the Environment, Christchurch, 122 p.
- Dodds, W.K., V.H. Smith, and B. Zander, 1997. Developing Nutrient Targets to Control Benthic Chlorophyll Levels in Streams: A Case Study of the Clark Fork River. *Water Research* 31: 1738-1750.
- Dodds, W.K., V.H. Smith, and K. Lohman, 2002. Nitrogen and Phosphorus Relationships to Benthic Algal Biomass in Temperate Streams. *Canadian Journal of Fisheries and Aquatic Sciences* 59: 865-874.
- Dodds, W.K., V.H. Smith, and K. Lohman, 2006. Erratum: Nitrogen and Phosphorus Relationships to Benthic Algal Biomass in Temperate Streams. *Canadian Journal of Fisheries and Aquatic Sciences* 63: 1190-1191.
- Flynn, K., and M.W. Suplee, 2010. Defining Large Rivers in Montana using a Wadeability Index. Helena, MT: Montana Department of Environmental Quality, 14 p.
- Flynn, K., and M.W. Suplee, 2011. *Draft*. Using a Computer Water Quality Model to Derive Numeric Nutrient Criteria. Lower Yellowstone River, MT. WQPBMS TECH-22. Helena, MT: Montana Department of Environmental Quality, 274 p plus appendices.
- Omernik, J.M., 1987. Ecoregions of the Conterminous United States. *Annals of the Association of American Geographers* 77: 118-125.
- Smith, R.A., R.B. Alexander, and G.E. Schwarz, 2003. Natural Background Concentrations of Nutrients in Streams and Rivers of the Conterminous United States. *Environmental Science and Technology* 37: 3039-3047.
- Sosiak, A., 2002. Long-term Response of Periphyton and Macrophytes to Reduced Municipal Nutrient Loading to the Bow River (Alberta, Canada). *Canadian Journal of Fisheries and Aquatic Sciences* 59: 987-1001.
- Suplee, M., R. Sada de Suplee, D. Feldman, and T. Laidlaw, 2005. Identification and Assessment of Montana Reference Streams: A Follow-up and Expansion of the 1992 Benchmark Biology Study. Helena, MT: Montana Department of Environmental Quality, 41 p.
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43: 453-472.

- Suplee, M.W., V. Watson, A. Varghese, and J. Cleland, 2008. Scientific and Technical Basis of the Numeric Nutrient Criteria for Montana's Wadeable Streams and Rivers, ***and Addendums***. Helena, MT: Montana Department of Environmental Quality, 86 p.
- Suplee, M.W., V. Watson, M. Teply, and H. McKee, 2009. How Green is too Green? Public Opinion of what Constitutes Undesirable Algae Levels in Streams. *Journal of the American Water Resources Association* 45: 123-140.
- Suplee, M.W., and R. Sada de Suplee, 2011. *Draft*. Assessment Methodology for Determining Wadeable Stream Impairment Due to Excess Nitrogen and Phosphorus Levels. Helena, MT: Montana Department of Environmental Quality
- Suplee, M.W., V. Watson, W.K. Dodds, and C. Shirley. Response of Algal Biomass to Large Scale Nutrient Controls on the Clark Fork River, Montana, U.S.A. *In submission to the Journal of the American Water Resources Association*
- U.S. Environmental Protection Agency, 2000a. Nutrient Criteria Technical Guidance Manual, Rivers and Streams. United States Environmental Protection Agency, EPA-822-B00-002. Washington, D.C.
- U.S. Environmental Protection Agency, 2000b. Nutrient Criteria Technical Guidance Manual, Lakes and Reservoirs. United States Environmental Protection Agency, EPA-822-B00-001. Washington, D.C.
- Varghese, A., J. Cleland, and B. Dederick, 2008. Updated Statistical Analyses of Water Quality Data, Compliance Tools, and Change-point Assessment for Montana Rivers and Streams. Prepared by ICF International for the Montana Department of Environmental Quality under agreement No. 205031, task order 5.
- Woods, A.J., J.M. Omernik, J.A. Nesser, J. Sheldon, J.A. Comstock, and S. J. Azevedo, 2002. Ecoregions of Montana, 2<sup>nd</sup> edition. (Color Poster with Map, Descriptive Text, Summary Tables, and Photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,500,000).

# 1.0 Introduction

Elements comprising Circular DEQ-12, **Part B** are found below. These elements are adopted by the Department after a public hearing. Montana state law (§75-5-103 [22], MCA and 75-5-313, MCA) allows for variances from the base numeric nutrient standards (found in **Part A** of this circular) based on a determination that base numeric nutrient standards cannot be achieved because of economic impacts or because of the limits of technology.

## 1.1 Definitions

1. **Limits of technology** means practical wastewater treatment processes for the removal of nitrogen and phosphorus compounds from wastewater that can consistently achieve a concentration of 0.1 mg TP/L and 4.0 mg TN/L.

## 2.0 General Nutrient Standards Variances

Because the treatment of wastewater to base numeric nutrient standards in 2011 would have resulted in substantial and widespread economic impacts on a statewide basis (§75-5 -313 [5][a], MCA), a permittee who meets the end-of-pipe treatment requirements provided below in **Table 12B-1** may apply for and will receive a general nutrient standards variance (“general variance”)(§75-5 -313 [5][b], MCA). The general variance may be established for a period not to exceed 20 years. A compliance schedule to meet the treatment requirements shown in the table will be established on a case-by-case basis.

The Department must review the general variance treatment requirements every 3 years to assure that the justification for their adoption remains valid. If a low-cost technological innovation for lowering nitrogen and phosphorus concentrations in effluent were to be developed in the near future, for example, the Department could (after May 2016) make more stringent the concentrations shown in the table.

**Table 12B-1. General variance end-of-pipe treatment requirements per §MCA 75-5 -313(5)(b).**

Discharger Category	Period During which Permittee May Apply for Variance:	Numeric Nutrient Standard		concentration averaging period
		Total P (mg/L)	Total N (mg/L)	
≥ 1.0 million gallons per day	Oct 2011 -May 31, 2016	1.0	10.0	monthly mean
< 1.0 million gallons per day	Oct 2011 -May 31, 2016	2.0	15.0	monthly mean
Lagoons not designed to actively remove nutrients	Oct 2011 -May 31, 2016	Maintain current performance	Maintain current performance	monthly mean

## 2.1 Wastewater Facility Optimization Study

Permittees receiving a general variance are required to evaluate current facility operations to optimize nutrient reduction with existing infrastructure and shall analyze cost-effective methods of reducing nutrient loading, including but not limited to nutrient trading without substantial investment in new infrastructure (§75-5 -313[9][a], MCA). The Department may request the results of the optimization/nutrient reduction analysis within two years of granting a general variance to a permittee.

Changes to facility operations resulting from the analysis carried out per the above paragraph are only intended to be refinements to the system already in place. Therefore, optimizations should:

1. Address only changes to facility operation and maintenance and not structural changes
2. Not result in rate increases
3. Must include exploration of the feasibility of nutrient trading within the basin

Who and how the analysis is carried out is to be decided by the permittee. The Department encourages the use of a third-party firm with expertise in this subject. *(We may refer permittees to the EPA's Comprehensive Performance Evaluation document-pending discussion with Paul LaVigne.)*

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### BEGIN CONCEPTUAL PROPOSAL

## Conceptual Proposal for General Variances, to be adopted After May 31, 2016

The following are conceptual proposals only, for consideration by the Nutrient Work Group. Two basic approaches have been proposed so far:

**Option 1:** Immediately after May 31, 2016, the Department (with Nutrient Work Group input) adopts more narrowly-defined ( or different) categories and associated concentrations for the general variances. This option would require an amendment to §75-5-313, MCA, to provide the Department with authority to refine or change the categories.

**Option 2:** For the period beginning immediately after May 31, 2016, the Department defines a process by which it reviews, every 3 years, the concentrations associated with the three volume-based categories now in statute. (These will remain static in Department rule until May 2016.) If sufficient justification exists to lower (make more stringent) the general variance concentrations during one of the post-May 2016 reviews, the updated concentrations would be adopted by the Department after a public hearing.

## Option 1

The following table (Table C1) is a conceptual proposal showing what option 1 could look like. The concentrations and categories shown are for example and discussion purposes only.

Readers should note that if this option is taken, the final version of Table C1 will not appear in this circular until after May 31, 2016

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**Table C1. General variance end-of-pipe treatment requirements after May 31, 2016. This is a conceptual proposal for general variances to be adopted after 5/31/2016 contingent on legislative amendments.**

Discharger Volume Category	Discharger Subcategory	Numeric Nutrient Standard		concentration averaging period
		Total P (mg/L)	Total N (mg/L)	
≥ 1.0 million gallons per day				
Publically Owned Treatment Works	> 50,000 population served	0.10	4.0	monthly mean
Publically Owned Treatment Works	10,000-50,000 population served	0.10	5.0	monthly mean
Publically Owned Treatment Works	< 10,000 populations served	1.0	10.0	monthly mean
Private systems	Oil and Gas	0.10	4.0	monthly mean
Private systems	Cement Manufacture	1.00	10.0	monthly mean
Private systems	Hard Rock Mining	0.10	4.0	monthly mean
Private systems	Sugar Beet Processing	1.00	10.0	monthly mean
< 1.0 million gallons per day				
Publically Owned Treatment Works	10,000-50,000 population served	0.5	7.0	monthly mean
Publically Owned Treatment Works	< 10,000 populations served	1.0	10.0	monthly mean
Publically Owned Treatment Works	< 5,000 populations served	1.5	12.0	monthly mean
Private systems	Oil and Gas	0.10	5.0	monthly mean
Private systems	Cement Manufacture	1.00	10.0	monthly mean
Private systems	Hard Rock Mining	0.10	5.0	monthly mean
Private systems	Sugar Beet Processing	1.50	12.0	monthly mean
Lagoons	n/a	2.00	15.0	monthly mean

Permittees who received a general variance prior to May 31, 2016 would have to upgrade their facility to meet the concentrations in **Table C1** within 10 years of May 2016, if they opt to continue to operate

under a general variance.

## Option 2

**Option 2** would not require a statutory change, unless the Department and the Nutrient Work Group believe that additional subcategories are necessary to properly implement the rule.

Rather than define long-term general variance standards upfront, **Option 2** would instead define a process. Only after changes in specified factors had occurred would the general variance treatment requirements be made more stringent. The review would occur triennially and would generally be carried out at a fairly coarse level (i.e., statewide). The Department and the Nutrient Work Group would consider whether or not:

1. Wastewater treatment technologies and costs for nutrient removal have improved
2. A substantial number of TMDLs had been developed and implemented
3. Nonpoint source BMPs had been widely applied
4. Montana's economic status had changed sufficiently to make treatment more affordable
5. Base numeric nutrient standards should be revised to reflect nutrient compound speciation and bioavailability
6. Nutrient trading options had been implemented where feasible

END CONCEPTUAL PROPOSAL

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## 3.0 Individual Nutrient Standards Variances

State law allows for the granting of nutrient standards variances based on the particular economic and financial conditions of a permittee (§75-5 -313 [1], MCA). Individual nutrient standards variances ("individual variances") may be granted on a case-by-case basis because the attainment of the base numeric nutrient standards is precluded due to economic impacts, limits of technology, or both.

Unlike the general variances presented in **Section 2.0** above, individual variances may only be granted to a permittee after the permittee has made a demonstration to the Department of economic impacts, the limits of technology, or both. The Department, in conjunction with the Nutrient Work Group, has developed an assessment process that must be completed. The assessment process is found in the Department document *"Carrying out a Substantial and Widespread Economic Analysis for Individual Nutrient Standards Variances"*.

A permittee, using the assessment process referred to above, must also demonstrate to the Department that there are no reasonable alternatives (including but not limited to trading, compliance schedules, reuse, recharge, and land application) that would allow compliance with the base numeric nutrient standards. If no reasonable alternatives exist, then an individual variance is justifiable and becomes effective and may be incorporated into a permit after a public hearing and adoption by the Department.

Individual variances adopted by the Department are documented below in **Table 12B-2**. Like general variance, individual variances may be established for a period not to exceed 20 years and must be reviewed every 3 years to assure that their justification remains valid. The 3-year review period for individual variances will be synchronized with the Department's normal triennial water quality standards review, scheduled next for **2013**. During each triennial review, Individual variances which are scheduled for review within plus or minus one year of the Department's triennial review will be pooled and reviewed at that time.

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**Table 12B-2. Individual variances granted by the Department and their associated review period.**

MPDES Number	Facility Name	Discharge Latitude	Discharge Longitude	Receiving Waterbody	Receiving Waterbody Classification	Numeric Nutrient Standard		Averaging Period	Start Date	Sunset Date (maximum)	Review Schedule (year)	Review Outcome
						Total P (mg/L)	Total N (mg/L)					
MT XXXXX	Town of Bob WWTP	47.45	-105.567	Bob Creek	C-3	2.5	20	monthly	10/31/2013	10/31/2033	2016	
											2019	
											2022	
											2025	
											2028	
											2031	
MT XXXXX	Town of Bill WWTP	46.48	-112.411	Bill Creek	B-1	3	18	monthly	6/1/2014	6/1/2034	2017	
											2020	
											2023	
											2026	
											2029	
											2032	

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